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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/520,206	03/07/2000	Larry S. Yaeger	112007-0022	9553

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EXAMINER

LE, BRIAN Q

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 07/09/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/520,206

Applicant(s)

YAEGER ET AL.

Examiner

Brian Q Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 March 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, and 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Altman U.S. Patent No. 5,517,578.

Referring to claim 1, Altman teaches a system for managing ink information in a computer system (Abstract) having a pen-based input tablet (FIG. 1, element 16), the system comprising:

A pen driver (program routine) (column 3, lines 60-67) coupled to the pen-based input/display table and configured to collect and organize the ink information entered at the pen-based input tablet into ink strokes (column 4, lines 1-10);

An ink memory area organized into one or more ink phrase data structures (memory blocks to store ink strokes) (column 4, lines 14-19); and

An ink manager (PenPoint OS) (FIG. 1, element 24) coupled to the pen driver for receiving the ink strokes (column 4, lines 1-11), the ink manager having an ink phrase termination engine configured to examine the ink information collected by the pen driver and, upon detecting the occurrence of an ink phrase termination event (ending indication) (column 8, lines 55-67), to identify a respective end of an ink phrase to the ink manager (column 16, lines 5-12),

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Whereby the ink manager stores the ink strokes (FIG. 4, element 71) received prior to the ink phrase termination event (Altman stores new stroke into a buffer before determine the bounds/the ending of the stroke in the store ink phrase data structure) (FIG. 4, element 72) in a selected ink phrase data structure (column 4, lines 14-19).

Regarding claim 16, Altman teaches a method for managing ink information (Abstract) in a computer system having a pen-based input tablet (FIG. 1, element 16) that may include an integrated display (FIG. 1, element 14) for generating ink information as a pen is moved across the tablet, the method comprising the steps of:

Receiving the ink information generated by the input tablet (FIG. 1, element 16);

Identifying the pen is lifted from the tablet so as to organize the ink information into corresponding ink strokes (column 6, lines 45-52); and

Organizing the ink strokes into one or more ink phrases (column 6, lines 53-63) as defined by one or more ink phrase termination (ending points) events (column 16, line 5).

Referring to claim 17, Altman teaches the step of organizing comprises the steps of:

Examining the ink information to determine whether an ink phrase termination (leave the proximity) even has occurred (column 6, lines 45-52); and

In response to the occurrence of an ink phrase termination even, segregating the ink strokes received (gathering ink strokes) (FIG. 4A, element 71) prior to the termination event (bounds determination or ending points) in a designated ink phrase data structure.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-15, and 18-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Altman U.S. Patent No. 5,517,578 and Beernink U.S. Patent No. 5,682,439 as applied to claim 1 above.

Regarding claim 2, Altman teaches the system wherein the ink information entered at the pen-based input table is associated with a client application (Pen Point Operating System) (column 4, lines 9-10), and

The ink manager, in response to the occurrence of an ink phrase termination event, is configured to pass the recognized ink strokes of the respective ink phrase to the client application (column 4, lines 1-15). However, Altman does not teach the ink manager that configured to pass the un-recognized ink strokes of the respective ink phrase to the client application. Beernink teaches the concept wherein the manager (Palm System) (column 4, lines 61-65) configured to pass the un-recognized ink strokes of the respective ink phrase to the client application (Graphical User Interface software or tablet display) (column 5, lines 66-67) (FIG. 5).

Modifying Altman's method of managing ink information according to Beernink would be able to predict and be able to correct the un-recognized ink stroke for the pen-ware system. This would improve processing and therefore, it would have been obvious to one of ordinary skill in the art to modify Altman according to Beernink.

For claim 3, Beernink further teaches the system wherein the ink manager, in response to receiving from the client application a reference context affiliated with the un-recognized ink strokes of the ink phrase, associates the reference context with the ink strokes (FIGs. 5-7).

Referring to claim 4, Beernink also teaches the system wherein the ink manager associates the reference context with the ink-recognized ink strokes by appending the reference context with the selected ink phrase data structure (FIG. 9, element 262).

For claim 5, Altman continues to teach the system wherein the ink phrase termination engine is configured to initiate a time-out of each ink stroke (time duration for each ink stroke) (column 7, lines 40-43) and further wherein the termination engine identifies the occurrence of an ink phrase termination event (as disclosed in claim 1) when the time-out expires before the next sequential ink stroke is detected.

And claim 6, Altman also teaches the system wherein the time-out has a value that is settable (predetermined amount of time) by a user of the computer system (column 5, line 17).

Regarding claim 7, Altman teaches the system wherein the pen-based input table has a surface and the ink information generated by the tablet includes out-of-proximity (proximity) data corresponding to the pen being lifted above the surface of the tablet, and further wherein the termination engine detects the occurrence of an ink phrase termination event (disclosed in claim 1) upon detecting out-of-proximity data from the tablet (column 6, lines 41-52).

Regarding claim 8, Beernink continues to teach the system comprising:

One or more handwriting recognition engines (column 10, lines 8-16) for generating hypotheses (guesses) based on the ink information entered at the pen-based table; and

A handwriting recognition manager coupled to both the ink manager and the one or more handwriting recognition engines, the handwriting recognition manager configured and arranged to coordinate operation of one or more handwriting recognition engines (basically is a broad description of the architecture of the described system) (FIG. 1), wherein

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The ink strokes received at the ink manager are passed to the handwriting recognition manager (column 10, lines 10-13), and

The ink manager notifies the handwriting recognition manager of the occurrence of each ink phrase termination event and, in response, the handwriting recognition manager directs a selected handwriting recognition engine to generate one or more hypotheses for the ink strokes corresponding to the respective ink phrase (column 10, lines 8-16 and 23-30). Modifying Altman's method of managing ink information according to Beernink would provide numerous guesses for the user to select the correct writing stroke from the un-recognized ink stroke for the pen-ware system. This would improve processing and therefore, it would have been obvious to one of ordinary skill in the art to modify Altman according to Beernink.

Regarding claim 9, Altman further teaches the system wherein the handwriting recognition manager in cooperation with the selected handwriting recognition engine employs a word segmentation model to the ink strokes as they are received by the ink manager and, in response to determining that a given ink stroke represents a new word (column 2, line 52), is permitted to issue an ink phrase termination signal to the ink manager (column 4, line 53 and column 6, lines 31-32).

Referring to claim 10, Altman also teaches the system wherein

The client application is configured to define at least one data entry field for display on the table and to establish corresponding boundary (bounding box) coordinates (column 3, lines 22-24 and 39-41) for the at least one data entry field, and

The termination engine identifies the occurrence of an ink phrase termination event when an ink stroke or portion thereof is outside of the boundary coordinates for the at least one data entry field (column 7, lines 25-30 and column 8, lines 28-36).

Regarding claim 11, Beernink further teaches the system wherein the one or more hypotheses are provided to the client application (column 9, lines 25-50). Modifying Altman's method of managing ink information according to Beernink would allow the user to use the client application to process and correct the un-recognize ink stroke for the pen-ware system. This would improve processing and therefore, it would have been obvious to one of the ordinary skill in the art to modify Altman according to Beernink.

For claim 12, Beernink further discloses the system wherein the ink manager in response to receive from the client application a reference context (column 5, lines 55-60) affiliated with the un-recognized ink strokes of the ink phrase, associates the reference context with the ink strokes (FIG. 5 and FIG. 6), and

In response to a request by the client application, returns the affiliated reference context to the client application together with the one or more hypotheses (FIGs. 5-6).

Referring to claim 13, Beernink teaches the system in response to receiving an indication that the client application has consumed the un-recognized ink strokes, the ink manager directs the handwriting recognition manager not to generate (Beernink teaches the popup corrector can be select so show the list of hypotheses. Therefore if the popup correct is not selected, then there is no generation of hypotheses) one or more hypotheses for the ink strokes (column 10, lines 17-19).

Regarding claim 14, Beernink teaches the system wherein in response to receiving the un-recognized ink strokes, the client application establishes a corresponding recognition context for the ink strokes, and the handwriting recognition manager receives the recognition context and directs the selected handwriting recognition engine to utilize the recognition context in generating the one or more hypotheses (FIGs. 5-6).

For claim 15, Beernink teaches the system wherein the one or more hypotheses generated by the selected handwriting recognition engine utilizing the recognition context from the client application are provided to the client applicant (column 5, lines 55-60 and FIGs. 5-6).

For claims 18-20, please refer back to claims 2-3 respectively for the explanation.

Referring to claim 21, please refer to claims 8 and 14 for the explanation.

For claim 22, please refer back to claim 7 for further explanation.

Regarding claim 23, please refer back to claims 16 and 10 respectively for the explanation. In addition, Altman teaches the comparing the ink information from the input tablet with the bounding coordinates of the one or more data entry fields (column 11, lines 22-28).

For claims 24-26, please refer back to claims 9, 5, and 7 respectively for the explanation.

For claim 27, please refer back to claims 16 and 17 for the explanation. Also, Altman teaches a computer readable medium (FIG. 1, element 30) containing executable program instructions (column 3, lines 60-64) to perform the claimed limitation.

Referring to claim 28, please refer back to claim 18.

For claim 29, Beernink also teaches a method in response to receiving an indication that the client application has consumed the un-recognized ink strokes (column 10, lines 10-15), blocking recognition of the ink strokes (column 13, lines 1-5).

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For claims 30-32, please refer back to claims 19-21 respectively for the explanations.

For claim 33, please refer back to claims 19 and 21 for the explanation.

For claim 34, please refer back to claims 27 and 21 respectively to for the explanation.

For claims 35-36, please refer back to claims 25 and 26 respectively for the explanation.

CONCLUSION

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to ink management in pen-aware computer system:

U.S. Pat. No. 5,784,504 to Anderson, teaches disambiguating input strokes of a stylus-based input devices for gesture or character recognition.

U.S. Pat. No. 5,454,046 to Carman, teaches universal symbolic handwriting recognition system.

U.S. Pat. No. 5,784,504 to Crane, teaches process and apparatus involving pattern recognition.

U.S. Pat. No. 5,778,404 to Capps, teaches string inserter for pen-based computer systems and method for providing same.

U.S. Pat. No. 6,493,464 to Hawkins, teaches multiple pen stroke character set and handwriting recognition system with immediate response.


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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q Le whose telephone number is 703-305-5083. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to TC Customer Service whose telephone number is 703-306-0377.

BL
June 18, 2003


AMELIA AU
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